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The Royal Veterinary College, London, in the Days of its Foundation*

Professor J. G. WRIGHT, F.R.C.V.S.

It is my duty to engage your attention while Their Majesties are inspecting the College. You have in your hands a brochure giving a brief outline of the history of the College together with the events which led to its rebuilding. You may observe above the main entrance of the new College, beneath the coat-of-arms, the two dates—1785 and 1937. Quite obviously the latter refers to the memorable ceremony it has just been our privilege to witness. It is to the former, 1785, that I would direct your attention. It was in that year that the first effort to bring the diseases of domestic animals in this country into systematic study was made. It is significant that it was due to the foresight of a group of agriculturalists in Hampshire, for the Agricultural Society of Odiham appointed a committee to consider the best method by which the art commonly called farriery, might be improved. Odiham is such a small place that many present may never even have heard of it. It is situated between Basingstoke and Aldershot.

The word "veterinary" originated in France. It was derived from the Latin word "veterinarius"—pertaining to beasts of burden; and its adoption in England was due to the fact that the founder of this College was a Frenchman. Veterinary schools had been established in France since 1761, and in 1790, Charles Vial St. Bel, who had been a professor in both the schools of Lyons and Alfort, near Paris, visited this country and propounded a plan for establishing an institution to cultivate and teach veterinary science. The scheme was received with enthusiasm, and the society of Odiham, recognising that this was the form through which its own ideals might best be realised, gave it hearty support. Thus this College came into being on April 8th, 1791, its first President being the Duke of Northumberland, and its first professor, M. St. Bel. One finds that the list of original subscribers is headed by the names of H.R.H. the Prince of Wales, who was subsequently to become King George IV, and his brother the Duke of York. For building the College the Governors entered into a contract with the lessees of the Earl of Camden for a piece of ground, about four acres, situated near St. Pancras Church, and bounded on the east by the Fleet River and on the south by Fig Lane. The situation was considered to be admirably suitable for the purposes of the College, both as regards its healthiness and its vicinity to London. It is the same spot upon which the College now stands. St. Bel was, at the time, about 50 years of age. He was a man of considerable learning and breadth of vision, and that he fully understood the requirements of veterinary teaching is amply illustrated by the course he introduced. This, within the circumscribed limits of knowledge of the time, was most comprehensive.

Let us endeavour to catch a mental picture of the young man whose parents had decided, in the spring of 1792, to send him to the new College in London. One finds that amongst the first graduates there were men, not only from London, but from all parts of the country, including Scotland, Wales and Ireland. He had travelled to London as an outside passenger on the stage coach, the journey occupying three or four days. The weather had probably been inclement and cold, and the roads were muddy and ill-kept. He had had qualms that they might be held up by highwaymen, for they abounded at the time. His fears were increased by the fact that he carried in his inside pocket the sum of 50 guineas, 20 representing his College fees, and 30 for his first year's board and lodging. Arriving in London in the late afternoon the coach pulls up at a hostelry in Holborn, and here he decides to spend the night. During the evening he keeps within the inn, for it is not safe to venture abroad. Footpads abound, so he is told—and we might remember that 20 years were to pass before Sir Robert Peel founded his famous force. There were no street lights, only the oil lamps carried by the watchmen. In the coffee-room he hears talk of the revolution that has been raging in France, and of the revolutionary armies invading

*Address delivered to the assembly in the Great Hall of the College on Tuesday, November 9th, 1937, when, as fully recorded in our last issue, Their Majesties King George VI and Queen Elizabeth visited the College, the King opening the new buildings.

Flanders. It is of interest to recall that marching with them was a young Corsican officer of artillery—Napoleon Bonaparte. It was said that the King—King George III—and the Prime Minister, the young Mr. Pitt, were contemplating going to war against them.

Early the following morning we see him setting off for the College. It is a distance of about two-and-a-half miles, and he proceeds on foot, carrying his baggage. He is dressed in a three-cornered hat, cravat, a long coat with metal buttons, knee-breeches, hose and stout buckled shoes. He passes along Gray's Inn Lane. Houses are scattered about, and on the left are those of the Inn. In the fields he sees a group of fine buildings; they are those of the Foundlings Hospital which was built in 1742. On his right are extensive pleasure gardens, the famous Bagnigge Wells. Reaching the end of the lane, he comes to a fine new broad highway: it is the recently constructed New Road extending from Paddington to Islington; we know it to-day as the Euston Road. Just beyond the New Road is a bridge over the River Fleet—Battle Bridge. This is the site upon which King's Cross Station now stands, although nearly half a century was to elapse before a railway reached that point. Passing along Battle Bridge Road he enters Fig Lane. By this time the scenery is quite rural. On either side are pastures in which dairy cattle graze, whilst over towards the river are watercress beds. To the north he can see the well-wooded slopes in which the villages of Hampstead and Highgate nestle. A little further on, on the right-hand side of the lane, he notes another pleasure garden—the St. Pancras Well. It is difficult to visualise a period when the district occupied by a maze of railway lines and coal yards was a health resort. Yet from a contemporary print one finds that the waters of St. Pancras Well were highly impregnated with Epsom and glauber's salts, and were "surprisingly successful" (the adverb would appear to be singularly appropriate) "for curing the most obstinate scurvy, King's evil, leprosy, and all other breakings-out and defilements." There were in those days a well and a pump in the centre of the College quadrangle, although one has never heard it suggested that any of the success attained in this institution was due to the medicinal properties of its waters. The young man has now reached the turnpike gate at St. Pancras Church. The picturesque little church was much the same then as it is now. To-day the little churchyard with its bit of grass and its well-tended flower beds represents an oasis in a desert of coal dust.

By this time our friend is at the Professor's house. He finds that he is one of 14 students. Having been shown to the rooms which will represent his home for the next two years, for students lived in the College in those days, he is presented to the Professor. What homily the professor delivered we do not know, but we do know that the student received a little booklet relating to the internal discipline of the College. Compared with modern standards the rules would appear to be severe. Whilst they were not without humour it was of rather a grim variety. He would have one month's vacation in each year. He would rise at 6 a.m. in the summer and at 7 a.m. in the winter. Lectures would be from nine to one in the morning and from four to seven in the evening. Most of these would be at the College, but some, particularly those on physiology and materia medica, would be at the medical schools: the famous John Hunter taught some of the early students of the College. He must not be out after 8 p.m. and must be in bed by ten. On no account will he be permitted to burn a candle in the night under a pretence of study. Finally, should he enter or leave the College other than by the gates he is guilty of a misdemeanour, and if the offence is committed after the gates are locked it will be considered a high aggravation. Looking around, he finds that the College buildings comprise a lecture room, a museum, a dissecting room, and infirmary accommodation for 50 horses. Some of those original buildings were occupied as recently as ten years ago.

The new institution, founded with such enthusiasm and hopes for the future, was soon to receive a staggering blow. In August, 1793, Professor St. Bel died after a short illness. There seems to be no doubt that the cause of his death was glanders, a disease of the horse communicable to man. For six months the College was almost at a standstill, when in February, 1794, the governors were fortunate to secure the services of a young and able surgeon, Mr. Edward Coleman, as Professor. Mr. Coleman was to control the destinies of the College for nearly 50 years.

Between the years 1794 and 1800, 93 men graduated from this school. Of these, 56 went into practice in various parts of the country, the remaining 37 joined His Majesty's cavalry, for by this time we were at war. There is little doubt that amongst those early graduates there were men who served with the Duke of York in Flanders, with Sir John Moore at Corunna, and with the Duke of Wellington at Waterloo.

That is but a brief review of the birth of this College. To-day you are honouring its re-birth.

A message from Moscow states that the frozen carcase of a mammoth, the gigantic elephant hunted by Palaeolithic man, has been found on Wrangel Island, off the north-east coast of Siberia. The Wrangel Island administration have reported the discovery, which is regarded as of scientific importance, as the specimen is perfectly preserved. The carcase is 19 feet long and covered with hair over four feet long.

DISINFECTANT AND INSECTICIDE CONTROL

The Need for National Standards

R. G. BERCHEM, M.Sc., A.I.C.

Since the beginning of this year, when the Pharmacy and Poisons Act of 1933 in all its phases became fully operative, the manufacture, distribution and sale of poisons has become subject to the most drastic and far-reaching control of any country in the world. Substances containing even minute amounts of a listed poison may now only be retailed by licensed persons, and the manufacturer and packer thereof is required to state in prescribed terms, and without qualification, the exact nature and amount of the poison contained in the preparation.

In strange contrast to this solicitude for the public welfare, is the long-continued neglect to provide legal standards for many commodities in widespread use for the maintenance of the health and cleanliness of man, his crops and his beasts. Nowhere is this deficiency more apparent than in the case of disinfectants and insecticides, which play an important part in our economic welfare.

The importance of disinfectants to surgeons, dentists and veterinarians, and those responsible for the maintenance of the public health, is beyond dispute. Similarly, the need for insecticides to combat the ravages of insect pests to growing crops and stored products, as well as the menace of certain species to the health of man and animals, is also fully recognised. Yet, with the exception of the Approved Lists of Disinfectants, Sheep Dips, etc., issued by the Ministry of Agriculture and Fisheries for specific purposes, and the somewhat vague protection afforded by the Merchandise Marks Act, there is no control to ensure that substances which are sold as disinfectants or insecticides are really effective for the purpose for which they are offered. The country to-day is flooded with preparations of all kinds, for which the most fantastic and unwarranted claims are often made, and in the absence of official standards, it is impossible for the purchaser to distinguish good from bad.

Firms of the highest repute are among the offenders, and this is due, not so much to any deliberate attempt to deceive, as to a failure to realise the fundamental problems involved.

Value of Rideal-Walker Coefficient

Surgical disinfectants, for instance, are still sold almost entirely on the basis of their Rideal-Walker coefficients, yet when it is realised that the latter is a measure of the relative efficiency of the preparation in *aqueous* solution, as compared with phenol, using *Bacterium typhosum* as the test organism, it will be understood that such information is of little or no value when dealing with pathogenic streptococci and staphylococci, particularly in the presence of considerable quantities of organic matter, such as serum, etc.

There is no direct relationship between the phenol coefficients against *Bacterium typhosum*, and those against *Staphylococcus aureus* or *Streptococcus haemolyticus*. Many preparations with a high Rideal-Walker coefficient have remarkably low efficiency against the two latter organisms, whereas certain other types of disinfectant possess almost the same efficiency when tested against any of these organisms.

Recent tests on a product which was recommended at a considerable dilution for the disinfection of wounds and the sterilisation of instruments, showed it to be ineffective at a dilution of 1 in 3, when tested against *Staphylococcus aureus*, although the Rideal-Walker coefficient of the product was 7·0.

The unsatisfactory nature of the law relating to the sale of disinfectants was recognised by the Departmental Committee,[1] and in the Report of the Poisons Board[2] it was considered that the proposed Regulations "would also remove some of the factors to which the Departmental Committee drew attention which encourage the distribution of ineffective disinfectants, *i.e.*, those containing less than 3 per cent. of carbolic acid or its homologues. . . ."

The anomalies in regard to the sale of lysol and lysol solutions were satisfactorily cleared up when "lysol" became the synonym for "Liquor Cresolis Saponatus" in the British Pharmacopoeia of 1932.

There is no doubt that since the Pharmacy and Poisons Act, 1933, became effective, the expectations of the Poisons Board have not been realised, and, in fact, a considerable encouragement has been given to the sale of so-called non-poisonous disinfectants, particularly those derived from pine oils and dephenolated creosote oil. Since we have no legal definition as to what constitutes a disinfectant, it is possible for almost anything to be offered for this purpose, without the slightest need for the manufacturer to put forward evidence as to the efficiency of the product, and so long as it contains no listed poison, it is entirely free from official control.

The Poisons Regulations do not afford users the protection to which they are entitled, and in this respect our legislation lags behind that of most civilised countries, particularly the Dominions and the United States of America, where drastic standards are everywhere in force.

The following is a brief résumé of the principal regulations covering the sale of disinfectants in the Dominions and the United States of America:—

Canada: Food and Drugs Act.

Any preparation of coal tar derivatives purporting to be of value as a disinfectant or

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germicide, shall bear upon the label a statement of the phenol coefficient as determined by the method of the hygienic laboratory, referable either to *B. typhosus* or to *Mic. aureus* as test micro-organisms.

Union of South Africa: Food, Drugs and Disinfectants Act.

Any substance sold as a disinfectant must bear full directions showing the strength at which it is effective. In the case of solid disinfectants, the names and percentages of active ingredients must be stated, while for liquid disinfectants the germicidal power or efficiency, expressed in numerical terms as compared with a standard or as ascertained by a prescribed method is required. It is an offence to publish any false or misleading description of a disinfectant.

New Zealand: Sale of Food and Drugs Act.

Regulations under the Act specify the following requirements for disinfectants, germicides and antiseptics, which are defined as substances or compounds which are claimed to be capable of "killing or preventing the development of the germs of disease." Explicit information is required as to the use to which the contents may be put, together with a statement of the effective strength for use. Surgical and medical disinfectants must comply with certain minimum requirements as follows:—

> "When five volumes of the substance are diluted to 100 volumes with water the diluted fluid shall have an efficiency for killing the organisms *Bacillus typhosus* and *Bacillus coli* equal to or greater than the efficiency of a solution prepared by diluting five volumes of liquefied carbolic acid B.P. to 100 volumes with water."

In the case of disinfectants for purposes other than medical or surgical use, if these do not comply with the foregoing test, a declaration must be made in bold type to indicate that the preparation is "not equivalent to carbolic acid."

Australia.—There appear to be no Federal regulations, but each State, including Tasmania, has regulations under their respective Food and Drugs Acts, defining disinfectants, germicides, antiseptics, deodorants, preservatives, etc. In all cases there are statutory requirements regarding the products which have to be labelled to indicate the effective strength at which they must be employed, and if the activity of such substances or compounds is counteracted, diminished or rendered inoperative under certain conditions, this fact must be clearly stated.

United States of America.—A very comprehensive series of standards is in force here. The Federal Government exercises a strict supervision over the whole range of disinfectants and insecticides. Not only are the labelling requirements very severe, but all advertising claims are also subjected to strict censorship.

American Legislation

In the early part of this year, during a visit to Washington, I had an opportunity of studying in some detail their legislative methods for dealing with this problem. The sales of disinfectants and insecticides are governed by the Food and Drugs Act and the Insecticide Control Act, and for convenience the administration is in the hands of the Insecticide Control Board of the U.S. Department of Agriculture.

It appears that prior to 1931, conditions in the U.S.A. were as chaotic as they were in this country in regard to recognised standards and methods of testing. For instance, both the Rideal-Walker and hygienic laboratory tests were in use, but neither was standardised, with the result that there were all sorts of variations of these tests. The problem of disinfectants was, therefore, tackled *de novo,* and in the first place it was found necessary to adopt certain definitions upon which to base their work.

Disinfectants are defined as substances which are applied to inanimate objects for the purpose of destroying micro-organisms thereon, which are pathogenic to man or beast. Such disinfectants for convenience are dealt with under legislation affecting insecticide control. Where, however, preparations are to be used for destroying pathogenic micro-organisms on or in the human or animal body, they are regarded as therapeutic substances, and are accordingly brought within the control of the Food and Drugs Acts. This latter class of substances is officially known as *antiseptics.* On this broad basis an official series of tests was devised in the Government laboratories by two bacteriologists—Ruehle and Brewer. Their work was published in an official bulletin,[3] and forms the basis of control of disinfectants and antiseptics in the U.S.A. The tests, which the authors readily admit are empirical (since it is impossible to reproduce in any test all the possible conditions met with in actual practice), are at least an attempt to apply conditions relating as nearly as possible to the practical. Tests have been devised for dealing with liquid disinfectants and antiseptics, powders, ointments, toothpastes, mouthwashes, etc., etc.

Where a preparation which is water-soluble or water-miscible, is intended for use solely as a disinfectant, the Food and Drugs Administration (F.D.A.) coefficient is determined by a test which is a modification of the Rideal-Walker test. It is claimed by the authors that the F.D.A. test gives more reliable results and is quicker to carry out, but this view is not shared by Rideal-Walker workers in this country.

Where a preparation is to be used for external application to the human or animal body, the test is carried out at 20° C. with *Staphylococcus aureus* as the test organism; on the other hand, if the preparation is to be used on wounds or

in body cavities, the test is carried out at 37° C. on the same organism in the presence of 10 per cent. serum. Other tests are applied to substances such as powders and ointments which are not water-soluble.

These are all described in the above-mentioned bulletin. In the case of the soluble antiseptics, coefficients are not determined, but the dilution which, under the particular conditions of test, is effective within five minutes.

The lethal effect within five minutes is the criterion applied in each type of test. The shortcomings of this method are fully realised, especially in the case of antiseptic soaps, where, of course, five minutes is far too long a time for testing.

It will be seen that the oxidising agents such as hypochlorites, permanganates, peroxides or mercurial compounds, would break down on the serum test, and are thereby automatically ruled out for surgical use. Similarly, such substances as pine oil fluids would fail on the *Staphylococcus aureus* test, and can, therefore, not be recommended for human or animal purposes.

In the case of disinfectants, *i.e.*, for the disinfection of inanimate objects, 20 times the F.D.A. coefficient is recognised as the maximum permissible dilution. This is based on a series of practical tests which have been carried out by the authorities. The latter take the view that generally speaking, statements of coefficients on labels and literature convey little or nothing to the public, and probably not much to the doctor or veterinarian. They, therefore, devote their attention to ensuring that each and all of the manufacturer's claims, as to dilution or method of application, can be substantiated when the appropriate test is applied.

Beneficial Effects

The whole effect of the control is to prevent manufacturers from making false or misleading claims. In this connection, Dr. MacDonnell, Chief of the Insecticide Control Board, recalled with some satisfaction the seizure by his Department some years ago of a very large consignment of a hypochlorite preparation. The goods were returned to the senders, since the authorities held that the preparation was ineffective for the particular purposes for which is was recommended. This does not mean that the use of hypochlorites is not permitted. Their value for specific purposes, such as the treatment of water, or disinfection of dairy utensils, is fully recognised. In view of the fact that hypochlorites are rapidly rendered inert in the presence of appreciable quantities of organic matter, articles to be disinfected must, however, be first thoroughly scrubbed.

Similarly, the position of mercuric compounds is also carefully regulated in order to prevent fallacious claims. It is known, for instance, that mercuric chloride is effective at high dilutions against *Bacterium typhosum*, but at the strength usually recommended it fails to kill the common pus-forming organism *Staphylococcus aureus*. It has been found by experiment that a 1 per cent. solution of mercuric chloride does not kill this organism in five minutes at room temperature, although it inhibits the growth at high dilutions, and this effect in the older methods of testing has been wrongly interpreted as killing. American authorities insist that this property of mercuric compounds must be taken into consideration when they are recommended for use in such preparations as germicidal soaps, or disinfectants for surgical instruments, for which purpose they must be capable of killing *Staphylococcus* at the dilution, and in the period of time for which they are intended to be employed.

It is recognised that there are many types of substances which are capable of destroying bacteria, but their effectiveness varies considerably under different conditions, and the authorities, therefore, have devised these tests in order to ensure that substances which may be very effective under certain conditions, are not recommended indiscriminately for other purposes for which they would be entirely unsatisfactory.

Preparations for stomachic, intestinal or urinary antisepsis have so far escaped an official test, since it is admitted that it is practically impossible to devise any satisfactory laboratory test which can give a reliable indication in the case of a preparation taken by the mouth.

In actual practice, prosecutions are said to be rare, since manufacturers almost invariably amend their claims when their attention is officially drawn to mis-statements. Furthermore, the control prevents unfair competition, inasmuch as an aggrieved competitor can register a protest at Washington against another manufacturer's claims, if he considers them unfounded. Since this "cuts both ways," it undoubtedly exerts a salutary effect, and must go a long way to preventing deliberately false or sweeping statements. For instance, such claims as "kills all germs" are not permitted, nor can a chemical preparation be said to sterilise, since under ordinary conditions it cannot kill spores.

Some Anomalies

There are, however, interesting and amusing anomalies in the American legislation. For example, the Washington authorities are only concerned with federal trade, *i.e.*, interstate commerce or into federal territories, or imports and exports. If a manufacturer confines his activities to his own state (provided there are no local laws to the contrary) he can sell anything he wishes as an antiseptic or disinfectant. Again, for a prosecution to succeed, it is not sufficient to proceed against the manufacturer on the evidence that his goods are on sale in another

state. It is necessary to prove actual shipment of the goods, and this naturally gives the authorities considerable trouble.

In passing, there is also in existence an approved list of disinfectants for use by the Veterinary Department in case of foot-and-mouth and other notifiable diseases. No matter what the coefficient, the preparation must not be used at a weaker dilution than 1-32!

In the field of insecticides, many of the substances which are sold in this country for this purpose, such as naphthalene and *para*dichlorbenzine, may not be recommended as moth killers under American legislation, unless most specific instructions are given to the user that the material is only effective under very limited conditions. Naphthalene does not kill or repel moths, and has no practical value unless it is employed in tight containers, and adequate period of exposure and dosage are allowed for. These substances can only be recommended as insecticides provided they are instructed to be used at the rate of 1 lb. per 100 cubic feet of confined space. Both these materials are extensively used in this country as insecticides, and are even advertised as being effective as disinfectants, when to all intents and purposes their sole function, under the conditions in which they are employed, is that of deodorants.

Now, I do not advocate the slavish adoption of the American F.D.A. test in this country, but I suggest the time is ripe for this matter to be thoroughly investigated, with a view to formulating a practical series of standards, which can be applied with equity both to the manufacturer and the user, and that these standards should have legal effectiveness.

The whole problem is one of great complexity, and would need the co-operation of the manufacturers along with the medical, dental and veterinary professions, and other important user interests. The F.D.A. methods might well be used as a basis for this work, but amended and adapted to suit the particular conditions appertaining in this country.

It is unfortunate that commercial disinfectants in this country, do not appear to have progressed beyond the stage of the Rideal-Walker and Martin-Chick tests. So far as the former is concerned, this has now been standardised by the British Standards Institute,[4] whilst a revised technique of the latter test is under consideration. It must be remembered that a third of a century has elapsed since these tests were first introduced, and medical science has surely progressed in the meantime.

The limitations of the Rideal-Walker test were recognised by the Standardisation Committee, for in their foreword to the approved technique they state that "the Rideal-Walker coefficient, even when determined by the standard technique, does not necessarily indicate the comparative value of different disinfectants under practical conditions of use." The value of this test could, however, have been much enhanced had the committee been able to agree on a uniform method of interpreting the phenol coefficient and thus put an end to some of the extravagant dilution claims which are made for certain products.

A satisfactory series of legally established standards would be of immense value to the industry as a whole, and reputable manufacturers would welcome the removal from the market of competition from ineffective products with which they are faced.

References

[1]Report of the Departmental Committee of the Poisons and Pharmacy Acts, 1930. Cmd. 3512.
[2]Report of the Poisons Board, 1935. Cmd. 4912.
[3]United States Department of Agriculture, Circular No. 198, December, 1931.
[4]British Standard Specifications No. 541—1934.

HUNTERS' IMPROVEMENT SOCIETY

At a recent meeting of the Council of the Hunters' Improvement and Light Horse Breeding Society, it was reported that the Council noted with satisfaction that grants for premium stallions will be forthcoming from the War Office and the Racecourse Betting Control Board next year. It has been decided to offer 67 premiums to the value of £150 each for thoroughbred stallions to travel various routes, the judges to be Brigadier-General R. S. Scott and Lieut.-Colonel E. C. Loch, O.B.E. There will also be 16 special premiums of the value of an additional £50 each, making it possible for a stallion to receive a total premium of £200. Special premiums will be awarded automatically to the champion and reserve champion stallions at the forthcoming London show, four to stallions 11 to 15 years of age, and ten to stallions ten years old or under on January 1st, 1938, the champion stallion being awarded the King George V Cup. The offer of special premiums for young stallions is designed to encourage the purchase and exhibition of these—a factor which is considered to be of vital importance. A special prize of £25 will be awarded to the sire of the winning group of three young hunters provided such stallion is exhibited with a view to a premium.

The Brood Mare Committee reported that the Society has now 368 mares located with custodians for breeding purposes and that since the inauguration of the scheme 552 mares have come under their control. One hundred and thirty-eight mares have been located during the current year, of which 130 were purchased and eight donated. Three hundred and three mares have been served this year. Of 212 mares served last year, 109 produced foals with the remainder barren—a foaling percentage of 51·41.

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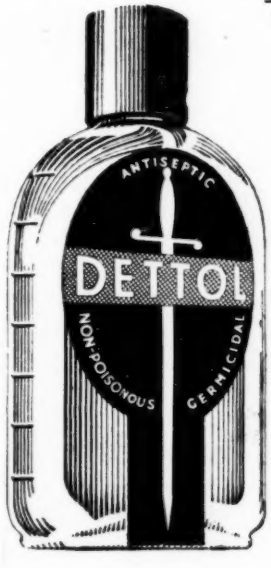

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The Veterinary Record

November 20th, 1937.

Animal Husbandry in Relation to Tropical Veterinary Science: Its Ecological Aspects

AT first sight, the processes of animal breeding and management in Britain would seem to have been pursued with little regard to what has been called the "balance of nature." This phenomenon holds true, it is often assumed, for organisms—animals and plants—living only in the wild state. The very name domestication implies, it is believed, the keeping of animals for the purposes of mankind sheltered so far as is possible from the adverse influences of the environment. The more intensive domestication becomes, as it does in highly civilised countries, the more is the animal supplied by its owner with all the foodstuffs and accommodation it needs at all seasons to subserve the aims for which it is kept; and, the more an enlightened State safeguards the owner against the risks of disease in his stock. The necessary foodstuffs, if not grown locally, may be purchased from far distant countries, and an efficient veterinary police organisation rigorously excludes contagious disease.

On the other hand, an article such as that of Mr. J. L. Stewart, on "The Cattle of the Gold Coast" (published in our issue of October 9th), which merits most careful reading by all students and those members of our profession who are interested in livestock breeding anywhere, indicates very clearly the disastrous results which can soon come about in incautious breeding operations when the environment exerts such a powerful effect upon the species as it does in tropical countries. With a little modification to take account of the breeds and special disease and other limiting factors of the locality, this scholarly and practical article might serve as a model in the modern methods of treating from the veterinary scientist's standpoint his problems in any locality in tropical countries. As the writers of the Lovat Report[1] say, "in the application of modern science to the harnessing of tropical wealth man is faced by the fact that if in the tropics nature is more bountiful than in colder climates she also reveals more terrible powers of destruction. It is perhaps on this account that such vast areas of the tropics, naturally so prolific, are still untamed and their resources but meagrely utilised by man."

Mr. Stewart traces the evolution through long ages of beautiful races of cattle, many of which have been able to survive only outside the destructive reaches of civilising man; the very mixed ancestry of the modern so-called pure breeds; their tendency to revert to the type of their more undesirable ancestors under adverse conditions; and, the striking differences in the degree of natural immunity possessed by the various races and breeds towards parasitism—using this term in its widest sense.

In the Gold Coast, a proper understanding of the breeding problem is to be obtained, it is evident, only with a thorough knowledge of the varying natural resistance of breeding stocks towards trypanosomiasis and rinderpest, as the chief enzoötic diseases. There are doubtless other diseases as well towards which some strains of cattle are better "acclimatised" than other strains. In India, for example, the indigenous breeds are highly resistant to the trypanosome (*T. evansi*) found pathogenic to other species in the country;[2] they possess likewise a high resistance, or premunition, towards theileriasis, which is fatal soon after arrival in the country to a large proportion of cattle of imported breeds;[3] while their high level of natural resistance towards rinderpest makes it now clear that what once seemed the most formidable veterinary task in the country can be solved readily by actively immunising them with a virus strain that has undergone slight attenuation in another species of animal, namely, the goat.[4] It is evident that it is in some such terms as these, of which the modern veterinary scientist alone can have the requisite knowledge, that one must address in future the "gigantic" breeding problems of tropical countries.

[1] Colonial Veterinary Service. (1929.) Report of a Committee appointed by the Secretary of State for the Colonies. pp. 44. London: H.M. Stationery Office. 9d.

[1] Knuth, P., and Du Toit, P. J. (1921.) *Tropen-Krankheiten der Haustiere* (Leipzig, Ambrosius Barch). In their chapter on surra (pp. 70-83), a summary is given of the recorded information upon the relative susceptibility to surra of the different animal species in India and of the probable difference in susceptibility ordinarily existing between the indigenous cattle of India and those of other countries; the classical example of the latter is the Mauritius outbreak of 1901. Also, Edwards, J. T. (1928.) *Mem. Dept. Agric. India, Vet. Ser.* **4**. i. 1-100. Calcutta: Govt. India Cent. Publ. Branch.

[2] Edwards, J. T. (1927.) *Agric. J. India.* **22**. 333-338, 411-424; Sen, S. K., and Srinivasan, M. K. (1937.) *Ind. J. Vet. Sci. An. Husb.* **7**. 15-35.

[3] Edwards, J. T. (1930.) *Imp. Inst. Agric. Res., Pusa.* Bull. **199**. 1-16; Stirling, R. F. (1932.) *Vet. J.* **88**. 192-204; (1933.) **89**. 290-306; and subsequent reports of the Civil Veterinary Departments in India.

The Linlithgow commissioners[5] were certainly right in this light in wholeheartedly condemning the short-sighted policy pursued by agricultural officers often without special qualifications for their task, of crossing the indigenous breeds of India with certain imported British breeds for the purposes of immediate high milk production. This policy in their judgment led to "hopeless" animals. Where the environment contains such latent destructive forces in the shape of parasitism, they were right in stressing the importance of patient selective breeding from indigenous stocks, a policy which from the examples they give yields in a few years surprisingly good economic returns.

In harmony with all good observers they stress, however, the prior importance of nutrition, with the paramount necessity of inculcating in the minds of indigenous owners a simple tradition for fodder conservation to tide their female and young stock through the normal annual hot-weather period of shortage. During recent years there has been probably no branch of science in which greater advances have been made than in nutritional research, and since the date (1929) of the Linlithgow Report some valuable information has come to hand which has thrown light upon the metabolism of cattle naturally adapted to life in tropical climates.

As an example, we may take the penetrating survey made by modern methods of study of the Problems of Animal Nutrition and Animal Husbandry in Northern Nigeria by Mr. A. W. Anderson, of the Nigerian Agricultural Department (1933).[6] "Environmental conditions," he concludes, "are such that improvement by importation of European stock is impossible. With the maximum improvement in nutritional conditions economically possible, the most advantageous policy appears to be to breed within the existing herds for a combination of high milk and high reproductive rate." In fact, there was little that could be taught to the nomadic Fulani herdsman in the management of his stock in his own country. It was otherwise, however, with the peoples who had settled to arable pursuits, whose livestock problem was a main and a grave one to the agricultural department. Here we may recall Mr. Smith's[7] statement, "The indigenous is still the only animal which can withstand work over long journeys whilst subsisting upon grazing as is found by the way."

It is therefore evident that, as the Linlithgow Report states, "it is scarcely possible to convey any indication of the task [of effecting improvements] to those who know only Indian conditions [or conditions in any single colony] or British stock farming, but by drawing on the experience of both countries, a glimmering, at least, of what remains to be done in India [or the colonies] may be obtained."

We need not pause here to discuss the degree to which the environment probably reacts—not in so "terrible," but perhaps in a still no less insidious way—on livestock problems as they confront us at home in Britain. But it becomes clear that when the veterinary scientist takes within his ambit the large problems of animal husbandry, the scope of his calling comes properly within the province of animal ecology—the science which treats of the distribution of animals in relation to their environment. The marked development of this science within the present century has given a new complexion to the understanding of distribution. Very important works, mainly from German authorities (such as those of Hesse,[8] 1924—now available in translation by Allee and Schmidt, 1937—and Taussig,[9] 1932) are forthcoming on this subject, and the teacher and specialist in animal husbandry must needs be acquainted with the progress of the subject.

Nor can we dismiss the indigenous stock owner as an invariably ignorant stockmaster. Where ownership of large numbers of cattle has fallen into the hands of bad stock masters we must not absolve ourselves entirely of responsibility, and we must regard it as our duty to impress upon them the methods of better management. We must remember always, as the Linlithgow Report says, that at home in Britain "with all (our) natural advantages, with much technical skill available, and with two centuries of experience to guide the stock breeder of to-day, the standard of quality desirable in all British cattle has not yet been reached. There are still many indifferent animals in that country, and the British Government has recently expended considerable sums in an endeavour to effect improvement."

[5] India. (1928.) Report of the Royal Commission on Agriculture in India. pp. 755. Calcutta: Govt. of India General Publication Branch. 11s. 3d.

[6] Anderson, A. W. (1933.) *Imperial Bureau of Animal Nutrition. Tech. Commun.* No. 4.

[7] Smith, J. (1937.) *Empire J. Exp. Agric.* 5, 19-28, 133-142. Reprinted in *Vet. Rec.*, 1937, **49**, pp. 1232-1244.

[8] Hesse, R. *Tiergeographie auf oekologischen Grundlage.* An authorised and re-written edition based on above, prepared by W. C. Allee and Karl P. Schmidt. pp. xiv + 597. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1937.) **30s.** net.

[9] Taussig. (1932.) *Oekologischen Haustiergeographie.* pp. 121, 11 illus., 3 maps. (Berlin: Parey.) **14s.** net.

Advances made in anthropological studies[10] indicate surely that we have still a good deal to learn from observing the structure and organisation of society among primitive peoples. We cannot but agree with the views expressed in the learned books recently written by Miss Margery Perham[11] and Dr. C. K. Meek[12] on the administration and peoples of Nigeria: "taxing primitive people first and trying to find out something about them afterwards is hardly the best way to invite confidences." The aim of the veterinary scientist cannot be achieved in any event in this way that is too often followed by the political officer, which, as Dr. Meek observes, is like "putting the cart before the horse."[13]

[10]For a useful recent exposition, *see* GOLDENWEISER. *Anthropology: An Introduction to Primitive Culture.* pp. xxii + 550. (London: Harrap, 1937.) 18s. net.

[11]PERHAM, MARGERY. *Native Administration in Nigeria.* pp. xii + 404, 4 maps. (Oxford University Press, 1937.) 17s. 6d. net.

[12]MEEK, C. K. *Law and Authority in a Nigerian Tribe: A Study in Direct Rule.* 8vo. pp. 386. 2 maps. (Oxford University Press, 1937.) 17s. 6d. net.

[13]Dr. B. A. KEEN, writing recently upon African Agricultural Problems (*Nature*, 1937, 140, 698-699) in the course of a review of two outstanding books, one dealing with South African and the other with West Coast agriculture, states that, in the former, *moisture* dominates the situation, and in the latter, *anthropology*. Discussing the immediate future of West Coast Agriculture, he says that the author of the work under review shows that "much of what European observers would rightly class as careless or worse, is explicable on historical and social grounds." . . . "But the author believes that the choice of method in tackling the problems is as important as the problems themselves. He would impose a minimum of the direct methods which European administrators and technicians naturally adopt. The direct method is easier and will produce more material advance in a given time; the indirect course is slower, more difficult, and has only one virtue: it will take the people along their own natural road to the goal."

AIR CONDITIONING IN PIG HOUSING

In spite of many architectural experiments little is known about the needs of pigs with respect to temperature and humidity. It is a matter of common observation that the pig's heat regulating mechanism does not function so efficiently as does that of most other animals, and so most of the modern buildings are an attempt to keep the animal protected from the conditions that exist outside. The variations in humidity which this may produce are not properly understood.

Practical observation suggests that pigs thrive best in this country when they are in a large yard, part of which is covered over but otherwise open to the atmosphere. The sleeping place must be deeply bedded with straw, as is commonly seen in Suffolk. In these conditions pigs bury themselves in the straw, but are breathing cold, fresh air most of the time. In modern and so-called Danish houses there is often no straw at all on the floor, and the air, in addition to being warmer than that outside, is often saturated with water vapour. Many of the bronchial troubles which are reported as being common in Danish houses, as well as those of a rheumatic nature, appear to be associated with the condition of the air. If we continue to erect large numbers of special pig buildings the whole question of air conditioning and its effect on the inmates needs investigation, with a view to reducing the incidence of much avoidable disease.—*The Times.*

CLINICAL COMMUNICATION

Abdominal Lipoma of a Bitch

J. McLINTOCK, M.R.C.V.S.
NORWICH

Subject.—Scottish terrier bitch, nine years old. Her weight was 23 lb., and she was in poor condition.

History.—Abdominal distension was first noticed about the beginning of July, 1937, and this increased gradually until the abdomen was grossly enlarged.

Examination.—The bitch was first examined on September 14th. She was fairly bright, although the temperature was 104° and the appetite was poor. The abdomen was distended, especially in the anterior portion, and a hard lobular mass could be palpated.

Diagnosis.—Neoplasm of one of the abdominal organs was suspected.

Differential Diagnosis.—The condition was differentiated from pregnancy by the extreme hardness of the abdominal contents.

Prognosis.—Unfavourable.

Course.—When seen again on September 16th, the bitch was bright and the appetite had improved although the temperature was still 104°. An exploratory laparotomy was suggested. On the 17th the owner decided on operation and this was performed that afternoon. The temperature was then normal.

Operation.—An intravenous injection of nembutal, grs. 3, was sufficient to produce complete anaesthesia.

The abdomen was opened with aseptic precautions and a large solid mass was seen to occupy almost the whole cavity. The surface of the growth was covered with numerous blood vessels, several of which bled when handled. The abdominal wall was incised from end to end and the tumour removed with difficulty. It was seen to be contained in the gastro-splenic omentum and the spleen was attached to its surface. The splenic vessels were ligated, using silk, and the growth and spleen removed, along with a large portion of attached omentum. The muscle was sutured with catgut and the skin with silkworm gut. Hypophysin 0·5 c.c. was injected intramuscularly and repeated three hours later. Sixteen hours later the bitch was able to lap milk and was given 6 c.c. prontosil, 5 per cent. intramuscularly and a further injection of 5 c.c. prontosil was given 18 hours later, at which time solids were taken readily. A final injection of 5 c.c. prontosil was made in a further 24 hours. Recovery was uneventful and the wound healed with only slight skin suppuration. On

September 29th the bitch was discharged in perfect health, weighing 16 lb.

Description of Tumour.—The growth was firm, rounded and flattened from above downwards. The surface was irregularly lobulated and covered with blood vessels. The spleen was adherent to the circumference. The growth weighed 7 lb.; it measured 25½ in. at its largest circumference, its largest diameter being 8¼ in. The substance of the growth was lobulated, the lobules being separated by a narrow stroma. There was a central irregular cavity lined with yellow caseous material and containing reddish grey fluid. The lobules varied in nature, some being red or reddish grey and firm, and others (the majority) greyish white and of a fatty or gelatinous nature. A few were composed of a soft yellow caseous material.

Histological Examination.—This was carried out at the Royal Veterinary College and the growth proved to be a lipoma.

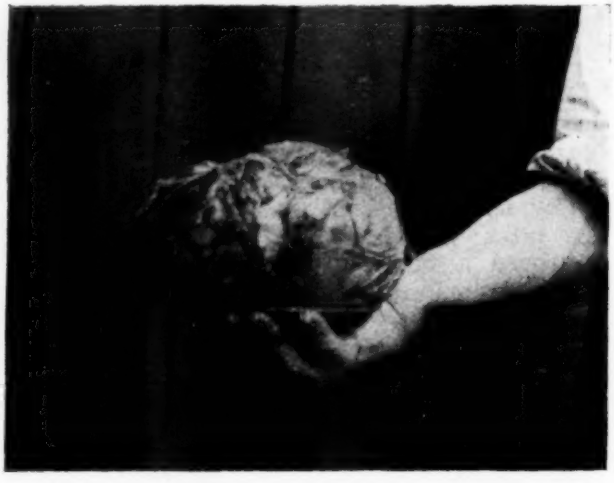

Photo of bitch taken eight days after operation.

Discussion.—It is of interest to note the large size of the growth in relation to that of the bitch and also the rapidity with which such a large abdominal wound underwent resolution.

ABSTRACTS

[Complement Fixation Reaction in the Disease, Infectious Abortion in Cattle. Wall, S. (1937.) *Skand. Vet. Tidskr.* **27.** 9. 461-489.]

As the result of his investigations the author concludes that in certain respects the complement fixation test is superior to the agglutination test for diagnostic purposes. For instance, in his experience, in cases of commencing infection the complement fixation test sometimes gave positive results earlier than the agglutination test, whereas the converse never occurred. Cases in which only the agglutination test was positive were invariably animals with waning infections. The author considers that by comparing the relative agglutinin and complement fixation titres of the serum of an animal a reasonably accurate estimate can generally be made as to whether infection is waxing or waning. By considering these factors in every member of a herd it is therefore possible to decide upon the most appropriate method of control to adopt (*i.e.*, segregation, slaughter of reactors, or vaccination).

As regards technique, Wall found specific Brucella antibodies to be heat-labile and consequently inactivation of the normal complement of samples of serum by heat is contra-indicated. Most samples of bovine serum contain only negligible amounts of complement, so that inactivation is hardly necessary; the little that does exist can be inactivated by the addition of 0·5 per cent. phenol, which should be allowed to act overnight at refrigeration temperature. [An obvious disadvantage to the wholesale adoption of the complement fixation test in eradication schemes is the extra labour and material required, which would add very considerably to the cost of testing.]

E. J. P.

* * * * *

[Growth of Streptococcus pyogenes in Milk Stored at Atmospheric Temperatures. Pullinger, E. J., and Kemp, Audrey E. (1937.) *J. Hyg.* **37.** 527.]

Milk-borne epidemics of scarlet fever arise as the result of contamination of the milk supplies with the causative organism (*Streptococcus pyogenes*), and this contamination might conceivably occur either as result of active infection of the udder of a cow with this organism, or from its introduction into the milk by some infected person.

Literature is cited showing that cows occasionally do develop mastitis as the result of infection with a streptococcus normally pathogenic for man, and that such cows may excrete enormous numbers of streptococci in their milk —sufficient to contaminate bulk supplies.

Accidental contamination of milk supplies by infected persons could not constitute a vital factor in the origin of extensive epidemics lasting days or even weeks, unless milk stored under normal commercial and household conditions was a suitable medium for the rapid multiplication of *Strep. pyogenes*. Experiments to test this possibility were made by artificially inoculating all the common commercial grades of milk with *Strep. pyogenes*, subsequently storing it at temperatures between 15 and 22° C. and examining it at frequent intervals for streptococcus content. It was shown that *Strep. pyogenes* grows only very reluctantly at these temperatures and that the milk went sour before any significant increase in the numbers of streptococci had occurred. Even a strain of the organism just isolated from the udder of a cow (and therefore presumably fully adapted to existence in cow's milk) failed to multiply under storage conditions.

It would therefore seem that in the case of scarlet fever active infection of a cow is generally the primary cause of extensive milk-borne epidemics.

E. J. P.

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[**I.—The Occurrence of Congenital Porphyrinuria (Pink Tooth) in Cattle in South Africa (Swaziland).** Fourie, P. J. J. (1936);

II.—Some Cases of Congenital Porphyrinuria in Cattle: Chemical Studies upon the Living Animals and Post-mortem Material. Rimington, Claude. (1936.) *Onderstepoort J. Vet. Sci. & Anim. Husb.* **7.** 2. 535-566; 567-609.]

I.—Thirteen cases of this condition (ten males and three females) occurred in a grade Shorthorn herd after the introduction of a new bull. The first symptoms were those of unthriftiness in the young stock after weaning. In some cases scabs were present down the middle of the back where the hair parts, also around the eyes and nose. The urine was red, although the condition failed to respond to treatment with trypan blue. Both the temporary and permanent teeth were brownish-pink in colour, the pigment being in the denture and not in the enamel. The pigment responsible was extracted from a bone by Rimington and identified as a porphyrin. The long bones are not uniformly discoloured, but in cross-section the pigment is seen to be laid down in alternating dark and light layers.

The colour of the urine varied from deep amber to reddish-brown, although in no case was it discoloured immediately or soon after birth. Four clinically affected animals were followed from the haematological point of view. They all showed varying degrees of anaemia. Two of these animals were kept continuously in a dark stable. The results in one animal were a striking improvement in bodily condition and a return of the blood picture to normal. The condition in the other animal was complicated by anaplasmosis.

The poor condition, the anaemia, and the skin lesions on those parts unprotected by hair are due to photosensitisation. In these 13 cases the available evidence suggests the hereditary transmission by a particular bull.

[In a similar condition in man there is evidence of an hereditary factor. The coloration of the teeth and the urine, and the symptoms of photosensitisation may be accompanied by hypertrichosis and nervous symptoms.]

II.—Employing Fischer's methods and, where the yields of pigment were too small, spectroscopic measurements, the following pigments were isolated: Urine—uroporphyrin and coproporphyrin; faeces—coproporphyrin and its copper complex; blood plasma and erythrocytes—coproporphyrin; bones—uroporphyrin; bone marrow—uroporphyrin and coproporphyrin; spleen—uroporphyrin; liver—uroporphyrin with its copper complex; bile—coproporphyrin.

The relation of these pigments to the synthesis of haemoglobin and its catabolism is discussed.

[In a further communication to *Nature*, **140**, October 2nd, Rimington and Roets (1937) describe the isolation of coproporphyrin III from a mixture of urinary and faecal coproporphyrins from the same bovines. They have also found what they consider to be an undescribed porphyrin, but this so far has not been obtained in sufficient amounts for analysis.]

D. L. H.

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[**The Treatment of an Infected Foot in a Dog by Ionization.** Greville, R. W. (1936.) *Austral. Vet. J.* **12. 6.** 241-242.]

The subject, a bull terrier, sustained an injury to the off hind limb through being struck by a motor car. There was no abrasion of the skin but an infective process subsequently supervened and gangrene threatened. As a penetrating antiseptic appeared to be indicated it was decided to try the effect of ionization with zinc sulphate. For this purpose a 60-volt dry battery was employed at 10 milliamps. The negative pole was applied to the thigh region. The positive pole was included in the 1 per cent. zinc sulphate solution in which the injured limb was immersed. Current was passed for 20 minutes each day for three weeks. The morbid process showed immediate relief and a complete cure eventually was obtained.

C. D.

[**A New Fly Repellant and a Blowfly Dressing.** (Preliminary Report.) Mönnig, H. O. (1936.) *Onderstepoort J. Vet. Sci. & Anim. Husb.* **7.** 2. 419-430.]

Mönnig records his experiments with the oils of certain common South African plants in the search for an effective blowfly repellant and also tests of certain drugs which are toxic for maggots and which could be used in combination with a repellant for the treatment of myiasis. It was found that oil obtained by steam distillation from the common weed *Tagetes minima* ("khaki bush") had very definite repellant properties against several genera of blowflies. Approximately 0·5 per cent. (by weight) of tagetes oil was obtained from the flowering plants.

Tagetes oil was found to be suitable for incorporation in blowfly dressings with larvicides such as carbon tetrachloride or tetrachlorethylene, the latter of which has, however, an irritating effect on wounds. It was found that the best results were obtained by preparing the dressing as an emulsion with wool grease. Details of the numerous mixtures tested and the methods of experiment are given in the paper, which should be consulted in the original by those interested.

J. S. S.

CENTRALISED VETERINARY SERVICES

Edinburgh Conference on Transfer of Local Authority Officers

The Government's scheme for a centralised veterinary service as envisaged by Part IV of the Agriculture Act, 1937, was discussed at a meeting in the Department of Health, Edinburgh, on Monday last, between representatives of the Ministry of Agriculture and the appropriate Scottish Departments and representatives of the local authorities.

The Ministry of Agriculture were represented by Mr. D. Vandepeer, Principal Assistant Secretary; Sir John Kelland, Chief Veterinary Officer, and Mr. D. B. Toye, Principal Establishment Officer. The Department of Health for Scotland was represented by Mr. J. W. Vallance, W.S., Assistant Secretary, and the Department of Agriculture for Scotland by Mr. B. A. Hislop.

Representatives were present of the County Councils Association, the Convention of Royal Burghs, and the Association of the Counties of Cities.

The procedure to be adopted in connection with the transfer of staff and functions from the local authorities to the Ministry of Agriculture was fully discussed.

It was intimated that a further circular letter on the subject will be sent by the Ministry to the local authorities in the near future.

The Act provides that Part IV shall come into operation on a date to be fixed by order of the Minister of Agriculture, but in view of the large amount of preliminary work necessary it is not yet possible for a definite announcement to be made on the subject.

REVIEW

[**Le Bacille de Type Bovin dans la Tuberculose Humaine. Revue de la Documentation actuelle.** (1937.) By Docteur Marcel Gervois. Lille: Imp. L. Danel, 93, rue Nationale. Price 100 f.]

The literature regarding the bovine type of the tubercle bacillus and its importance as a cause of human disease is large and widely distributed and the object of the work at hand is to review the present state of our knowledge on the subject. All the important contributions are included and the review is accompanied by 473 references, which are classified according to the aspect dealt with. The layout is such that workers who require information on any particular aspect can readily find it, the data being presented under the following main headings:—

Part I.—Bacteriological characteristics; the avian bacillus; the differentiation of the human and bovine types by allergic, serological, morphological, cultural or biological methods; atypical strains; the stability of the types; dissociation.

Part II.—The actual types which have been found in 17,045 examinations made in various countries during the last 35 years in order to determine the type present.

Part III.—The nature of the clinical disease caused by the bovine type in human beings; morbidity and mortality.

Part IV.—The sources of infection, including data regarding the relative frequency of the bovine type in human beings, tuberculosis amongst cattle, infection of milk, distribution of human infections with the bovine type, occupation of individuals, etc.

Part V.—Pathogenesis. The portal of entry and resultant lesions, and further data regarding tuberculous milk, including the results of the examination of some 83,000 samples in various places, mostly in Great Britain and Ireland, and details regarding other milk products.

Part VI.—Prevention of human tuberculosis of bovine origin. Pasteurization of milk and some retails regarding the legislative measures adopted in various countries for the control of the disease in bovines.

The large amount of data is tabulated in such a way as to show its significance from various points of view, though the author is properly conservative regarding the correctness of summarising data which have been obtained in different countries, often by different methods.

The work will be invaluable to those who require a general view of the work which has been done on this subject or who wish to read further. Whilst the author does not attempt to

REPORTS

Kenya Colony and Protectorate

REPORT OF THE DEPARTMENT OF AGRICULTURE FOR 1936

This report of two volumes covers a wide range of subjects and includes the reports of the Chief Veterinary Officer (Major Brassey-Edwards) and the Chief Veterinary Research Officer (Mr. Daubney).

Of very great significance to our profession, at home and overseas, is the welcome statement contained in the Director of Agriculture's own report that "plans for the separation of the Animal Industry Division as an independent Veterinary Department are on foot." We have recently learned that this separation has since been accomplished. For many years our colleagues in Kenya have been striving hard to win this separation from the Agricultural Department and to establish an independent Veterinary Department with a status equal to that of agriculture, medicine and other important departments of government. It is consoling to learn that after so many years of effort success has been achieved at last, and we heartily congratulate those members of our profession who have been concerned with its fulfilment.

Another pleasing feature of the Director's report is the statement that "the year 1936 was notable for a definite turning point in the psychological attitude both of the farming community and of the Department." Ever since the financial depression set in in 1930 the outlook of Kenya farmers has been a gloomy one. It is good to learn that this gloom is now subsiding.

An optimistic tone is also conveyed in the report of the Chief Veterinary Officer, who states, *inter alia*, that the more important stock-breeding districts of the Colony were singularly free from certain diseases during the year. In his report the Chief Veterinary Officer gives an account of the distribution and incidence of the various infectious diseases in the settled areas and native reserves and the measures adopted for their control. There is nothing of an unusual character to note in his report beyond the success which appears to be attending the measures of control adopted against rinderpest and contagious bovine pleuropneumonia. The control measures against rinderpest vary according to circumstances from attenuated-virus vaccination in certain settled districts to sero-virus vaccination in the native reserves, while vaccination with attenuated culture has been adopted against pleuropneumonia. The statement is made in connection with the latter disease that "experience indicates that the eradication of pleuropneumonia is a comparatively simple matter in the course of time, provided facilities are available for slaughter of the clinically infected and segregation and vaccination of the in-contacts."

The report of the Chief Veterinary Research Officer takes the form of previous ones, but the research section is not so extensive—due, it is explained, to the pre-occupation of the Chief with other matters. He acted, for example, as Secretary to the Committee of Enquiry into Meat and Livestock, in which capacity his efforts, according to the Director of Agriculture, were largely responsible for the establishment of a meat-extract factory and for negotiations to erect a freezing plant for export of frozen and chilled meat. He also acted as Chief Veterinary Officer for seven months of the year. Despite this deflection some interesting experiments were made by his staff. For instance, in passaging rinderpest bovine virus through goats it was found that all goats inoculated (72) during the first 33 passages died of rinderpest except one; from the 34th to the 40th passage eleven recovered out of 27, but from the 47th to the 54th passage the mortality was 100 per cent. The mortality rate fell again from the 55th to the 62nd passage, but from the 63rd to the 72nd passage it rose to 100 per cent. The goat virus was tested from time to time on cattle with fatal results even up to the 83rd goat passage, after which a definite attenuation for bovines had taken place. As the number of cattle used was small it is proposed to continue the experiment before drawing definite conclusions. These findings, however, form a useful guide for others in Africa who are using or about to use goat-virus vaccine for immunising cattle in the field. A feature of the lesions in the goats, during the earlier passages, was a pleuropneumonia. A new "specific" transmissible petechial fever of cattle is described and which appears to be transmitted by insects and bears some resemblance to blue-tongue in sheep. The causal agent was not yet identified. The disease is of some economic importance since it is fairly widespread in the Highlands and the mortality may be up to 20 per cent. A piroplasm resembling *P. trautmanni* was discovered in pigs. Many experiments on theileriasis are recorded of which, perhaps, the most significant finding is that there appears to be no cross-immunity between the diseases caused by *T. parva* and *T. dispar*. Experiments, to which space does not allow us to refer, were also conducted on several other diseases. This

be especially critical, he expresses fairly the views generally held regarding the various aspects of the subject, making ample use of appropriate quotations from the original works.

section, at least, of this interesting report should be perused by our colleagues in other Colonies as it contains much useful information.

W. K.

* * * * *

Palestine

REPORT OF THE VETERINARY SERVICE FOR THE YEAR ENDED MARCH, 1936*

In his introduction the Chief Veterinary Officer mentions the visit in 1935 of Mr. F. A. Stockdale, Agriculture Adviser to the Secretary of State for the Colonies. Mr. Stockdale made certain recommendations concerning the Veterinary Service; these are briefly enumerated.

The year under review was a good one for stock.

A number of new appointments were made to cope with the increase in work, and at the close of the year the staff totalled 167, of whom 17 were veterinary officers, many of whom hold foreign diplomas.

The expenditure of £P.41,653 compares with £P.32,700 for 1935. The receipts totalled £P.30,065 and compare with £P.18,313 for the same period of the previous year. An analysis shows the Disease Control Division to be self-supporting; expenditure amounted to £P.24,078 and receipts to £P.27,896.

There were no outbreaks of serious epizoötic diseases. Cattle losses from tick fevers, although still serious (especially in imported grade stock), have been greatly reduced in areas where dipping is practised. Fresh tanks are being erected annually.

Bovine contagious abortion is gradually being eradicated. Of the 89 herds under test, 77 are now entirely free. All imported dairy cattle are now tested on arrival.

Arrangements have been made for ascertaining the incidence of tuberculosis with a view to introducing a scheme for its eradication.

Anthrax is widespread and 72 outbreaks occurred. Increasing numbers of stock were successfully vaccinated.

One outbreak of blackquarter was reported.

The work of blood-testing equines for dourine was continued.

Six cases of glanders and seven cases of epizoötic lymphangitis were reported and destroyed.

Mange appears to be widespread; advice on treatment is given when possible.

No diseases of swine were reported.

In sheep and goats, cases of pox, scabies, parasitic gastro-enteritis, and one case of infectious pleuropneumonia of goats were reported and dealt with.

The incidence of rabies appreciably decreased during the year. The usual control measures were enforced.

The general condition and health of poultry kept under the modern system of poultry raising has been good. All the usual diseases were encountered; also a virus disease hitherto unknown, with a mortality of 80 to 90 per cent. Fowl paralysis is only very occasionally reported.

A number of land frontier and port quarantines are maintained to prevent the introduction of disease; they provide a considerable revenue. Increasing numbers of livestock were imported. Most of the slaughter cattle came from Roumania and Bulgaria, and the sheep and goats from Turkey and Syria. Dairy cattle came from Roumania, Germany, Holland and Switzerland. A course for meat inspectors was inaugurated and new slaughterhouses erected. Parasitic infections are still the chief causes of condemnations.

The Department continued to provide veterinary service to the police and British troops in Palestine.

Under the heading of Animal Husbandry it is stated that imports of dairy produce have increased enormously, while exports remain negligible. The dairy industry has increased considerably and distribution co-operatives have been formed by producers. About 80 per cent. of the dairy cows are crosses between pure-bred Dutch bulls and local cows. Carob beans are fed extensively and feeding experiments in this connection are being conducted. The sheep and goat industry is reviewed, the lambing and kidding season having been excellent. Breeding experiments show that this country is unsuitable for sheep of the non-fat-tail variety: these experiments are more fully reported on in annexure D. Karakul crosses have done well and appear to produce a superior skin. Instruction and assistance is given to villagers to improve their livestock and establish modern bee-keeping.

In annexure A the Veterinary Pathologist reports a tremendous increase in the work of the laboratory. He reviews the routine work and reports satisfactory progress with the elimination of bovine abortion—26,362 agglutination tests were carried out.

Foulbrood of bees was investigated and some cases of entero-toxaemia in goats are reported.

New diseases are continually being revealed.

Work is being carried out on the preparation of an antiserum for entero-toxaemia and cell-inclusion disease is being further investigated.

Cases of the hitherto unknown virus disease of fowls were investigated and examined; lesions were confined to the proventriculus or

*[Smith, J. M.] 74, 4 annexures, 25 appendices. *Reprint extracted from the General Report of the Department of Agriculture and Forests for the Year* 1935-36.

intestines or both. The virus nature of the disease was demonstrated.

In annexure B the Stock Farm Manager first reviews the general position. Various herds of cattle, sheep and goats are kept and studied, the object being to discover the most suitable breeds for the country. They are bred up by selection and experimentally cross-bred with local stock. Selected sires are lent for service. Large and Middle White pigs also are kept.

In the next annexure the Senior Poultry and Bee-keeping Officer reviews the position of the poultry industry. During the year the Government imported a considerable variety of pure-bred fowls, turkeys, ducks, rabbits and bees; these were acclimatised at various poultry stations and their progeny will be sold. A multitudinous number of experiments are being conducted to determine, for example, the most suitable poultry foods and poultry houses, and the best breed for Palestine.

Finally, there are 25 appendices, which give exhaustive statistics for all sections of the report.

R. F.

* * * * *

City of Sheffield

REPORT OF THE CHIEF VETERINARY OFFICER FOR 1936

Mr. H. M. Salusbury, M.R.C.V.S., D.V.H., has written his annual report under three main headings:—

(1) Diseases of Animals Acts and Orders.
(2) Inspection of Meat and Other Foods.
(3) Elimination of Tuberculosis Infection from the Milk Supply of the City.

He is assisted in his work by two assistant veterinary officers.

For the purposes of administration of the Diseases of Animals Acts the Chief Veterinary Officer is appointed as Chief Inspector for the city, and all duties connected with these Acts are carried out by his Department.

During 1936, 94 cases of tuberculosis, ten of swine fever, four of foot-and-mouth disease and one of parasitic mange were confirmed in the city.

The Tuberculosis Order is dealt with later in the report, under the Milk Section.

In connection with swine fever, *post-mortem* examinations were conducted on 208 pigs, disease being confirmed in ten cases. Three of the confirmed cases were found during the examination of slaughtered pigs at the abattoir.

During the year Sheffield was unfortunate enough to be involved in four outbreaks of foot-and-mouth disease. This entailed considerable work for the Veterinary Officer's staff, but happily there was no further spread within the city.

The section of the report dealing with meat and other foods includes inspection at the corporation abattoir, private slaughterhouses, wholesale and retail markets and retail shops in the city. It is noted that only one private slaughterhouse remains in the city to-day. When it is remembered that only a few years ago there were well over a hundred of these private slaughterhouses in Sheffield, it is gratifying to learn of the satisfactory position obtaining at present. During 1936, 40,111 oxen, 14,965 calves, 93,504 sheep, 55,449 pigs, comprising a total of 204,029 animals in all, were slaughtered within the city.

Tables are given showing the number of carcases condemned, details of offal condemned, details of the various diseases present which resulted in these condemnations and the detailed and total weights of all meat and offal condemned. In the table giving the number of organs condemned at the abattoir, the number of udders condemned for tuberculosis (1,134) seems extraordinarily high, and it would be interesting to learn the actual percentage of cows slaughtered which showed tuberculosis of the udder.

The Elimination of Tuberculosis Infection in Milk

The city's milk supply is controlled by two methods:—

(*a*) Systematic examinations of all milch cows in the city.
(*b*) The biological testing of all milk samples.

There are 153 registered milk producers within the city boundary, with a total of approximately 2,000 milch cows. An endeavour is made to examine these every six weeks. Bulk samples of milk taken from these farms during the year showed 7·23 per cent. positive to the biological test for tuberculosis.

Cows found suffering from tuberculosis are dealt with under the Tuberculosis Order, 1925. During the year 95 such cows were found, this being the highest number yet recorded in the city. Details of valuations, salvage, compensation, etc., are given.

Bulk samples of milk from country herds supplying milk for sale in the city were taken periodically throughout the year and submitted to a biological test. A total of 392 samples were taken in 1936, 8·37 per cent. proving tuberculous. The latter were dealt with in terms of the Milk and Dairies Consolidation Act, 1915.

It is noted that nine of the city farmers are enrolled as accredited producers, representing approximately 219 cows. Only one producer in the city holds a licence to produce tuberculin-tested milk.

The report closes with details of veterinary services to other Departments.

National Veterinary Medical Association

INAUGURATION OF THE WELSH BRANCH

A joint meeting of the North and South Wales Divisions of the N.V.M.A. was held at the Raven Hotel, Shrewsbury, on Friday, November 5th, 1937. Mr. H. Llewelyn Jones occupied the chair, and the following members were present: Messrs. C. W. Cartwright, R. L. Lewis, F. H. Manley, R. Dudlyke, G. Jones-Roberts, W. Jones, J. Llewelyn Williams, Leonard D. Jones, John Cane, J. F. Craig, J. Campbell Hill, D. G. Davies, W. Hall Savage, R. Wynne Williams, W. O. Jones, D. J. Anthony, W. F. Aston, A. F. Morgan and L. E. Hughes.

The Chairman explained that the meeting had been called to inaugurate the Welsh Branch of the N.V.M.A., sanction for which had already been granted. For the guidance of the meeting the N.V.M.A. rules appertaining to Branches were read, and also a letter from the Hon. Secretary of the Scottish Branch. After a short discussion the meeting decided that the Presidency of the Branch should alternate yearly between the two Divisions, the President to be elected at the autumn meeting, and to hold office for one year.

Election of Officers

President.—Professor J. T. Share-Jones, D.Sc., Dr. Med. Vet., M.Sc., F.R.C.V.S., Director of Veterinary Studies, the University of Liverpool, was unanimously elected first President of the Branch.

President-Elect.—It was decided that the South Wales Division be asked to nominate a President-Elect, to take office at the expiry of the first President's year of office.

Hon. Secretary and Hon. Treasurer.—Mr. D. J. Anthony, Brierley Hill, was elected Hon. Secretary, and to him were also allocated the duties of Treasurer.

Council.—It was decided that the Council of the Branch should consist of the President, President-Elect, Hon. Secretary, together with three members of the Council of each Division, and in addition any member of the Council of the Royal College of Veterinary Surgeons resident in the principality.

The drawing up of rules, questions of finance, date and place of meetings, were left to the Council for decision, a wish being expressed that meetings should be held at places convenient to members from both north and south, and that such meetings should commence early, 12 o'clock noon being suggested, owing to the long distances members would have to travel. It was decided that there be a minimum of two meetings, one in the spring and one in the autumn.

Resolutions.

(1) It was resolved that the meeting most heartily congratulate the President, Professor Share-Jones, upon his appointment as a member of the Livestock Advisory Committee.

(2) It was resolved to ask the Council of the National Veterinary Medical Association to take steps so as to ensure Welsh representation on any committee formed to discuss with the Ministry of Agriculture and Fisheries the dividing up of the country into administrative areas.

The meeting terminated with a hearty vote of thanks to Mr. Llewelyn Jones for occupying the chair.

IN PARLIAMENT

Foot-and-Mouth Disease

MINISTER ON THE SLAUGHTER POLICY

In the House of Commons on Monday last, Mr. V. Adams asked the Minister of Agriculture if, in view of the wide and sudden incidence of foot-and-mouth disease, he could say whether the ailment was at present known to be susceptible of prevention and/or cure; and what money was being spent by his Department on scientific research into the causes, prevention and cure, of the disease.

Mr. Lewis also asked a question on the same subject.

Mr. W. S. Morrison, Minister of Agriculture: The disease is curable, though fatalities occur in the case of very young animals and exceptionally among adults. No innocuous method of producing prolonged immunity against the disease has been discovered. Referring to the temporary protection afforded by the use of immune serum, the Foot-and-Mouth Disease Research Committee reported recently that "such serum as is at present available cannot be relied on to protect a bovine from infection when intimately exposed to a highly infective case of disease." The most effective method of preventing the spread of infection is the prompt slaughter of affected animals and those in immediate contact, so as to stop the manufacture of virus and to destroy existing virus by disinfection. It has been shown repeatedly abroad and is being shown to-day in Western Europe that alternative methods are not successful in preventing the widespread diffusion of disease. The research work in progress under the supervision of the Foot-and-Mouth Disease Research Committee is at present costing between £16,000 and £17,000 a year. The present position is fully set out in the introduction to the Fifth Progress Report of the committee which was published in May last by His Majesty's Stationery Office.

Mr. Levy: Is the Minister aware that some authorities think that the cause of this disease is contaminated water?

Mr. W. S. Morrison: There are many suggestions from many authorities. We think this present outbreak is caused by migrant birds.

In reply to Sir P. Hurd, Mr. W. S. Morrison said there is no evidence to suggest that the present series of outbreaks is due to infection introduced by raw animal products, and the restricted area in which the numerous independent centres of infection have occurred suggests that articles of commerce are not the

vehicles of infection in this case. It does not appear necessary, therefore, to take further measures in regard to the trade in raw animal products.

Major Dower asked the Minister of Agriculture when the last case of foot-and-mouth disease was reported in the County of Cumberland; how long after infection it takes before the disease manifests itself; and what investigations are being made into the cause, in view of the great loss sustained through this disease?

Mr. W. S. Morrison: The latest outbreak of foot-and-mouth disease in Cumberland occurred on July 1st, 1931. The period of incubation of the virus responsible varies from two to ten days. As regards the last part of the question, research work has been in progress during the past 13 years under the supervision of a scientific committee which was set up by one of my predecessors. A general review of the position of these investigations and the results so far obtained is contained in the Fifth Progress Report issued by the committee which was published by His Majesty's Stationery Office last May.

The Standstill Order

At an earlier session (on Thursday of last week) in reply to Major Dower, who asked the Minister of Agriculture whether he could make a statement on the grave situation caused in agricultural areas by the further outbreak of foot-and-mouth disease,

Mr. W. S. Morrison said: "Since October 16th 43 cases of foot-and-mouth disease have occurred in the eastern and south-eastern counties of England, from Lincolnshire in the north to East Sussex in the south. The occurrence of the disease at so many widely separated centres with no traceable evidence connecting them, and the fact that the type of disease appears to be very virulent in character, has created a situation which called for additional precautionary measures.

A standstill Order has, therefore, been imposed over certain eastern and south-eastern counties of England, in order to minimise the danger of the westward spread of disease from the infected areas. Only two further outbreaks (and those in close proximity to existing cases) have been confirmed during the past 36 hours, and, while it is too early yet to form any definite conclusion as to whether the spread of the disease has been arrested, it is earnestly hoped that with the continued co-operation of the farming community and local authorities that result may be achieved.

The House will be aware that during the past three months the disease has spread with great rapidity on the Continent. It is reported that during the six weeks ended October 15th there were 38,758 new outbreaks in France and 1,129 in Germany. In Belgium there were 4,090 outbreaks in September, and in Holland the number of communes affected on October 31st was 762.

Major Dower: Is it the intention of the Government to carry on with their present policy of slaughtering infected animals with compensation to the farmer in the event of any further increase in the outbreaks of this disease?

Mr. Morrison: That of course is a hypothetical question. In the meantime it is the intention of the Government to proceed with the present policy.

Mr. Thorne: Does not the right hon. Gentleman think that farmers should receive full compensation for the loss of their cattle?

Mr. Morrison: The terms of compensation are fixed by Statute and I have no power to alter them.

Mr. De Chair: Has my right hon. Friend any reason to suppose that straw imported through the Harwich Ferry has had any effect in causing this outbreak?

Mr. Morrison: There is an Order, made in 1925, which prohibits the bringing of animals into contact with any imported straw or packing material. I have made inquiries into the matter and as a result I have no reason to suppose that any of the present infection arises from disobedience of that Order. If my hon. Friend, or any hon. Member, has any case to report where the Order is being transgressed I will, of course, examine it.

Supposed Spread by Birds

Sir F. Fremantle: Does not the widespread nature of this present infection suggest the possibility of its being spread through birds? Is that matter being considered and would it not have a considerable effect on the measures to be taken?

Mr. Morrison: Yes, Sir. The nature of this infection shows that it is undoubtedly a field infection and it is supposed from the evidence that has been collected that it is imported into this country by migrant birds.

Mr. G. Nicholson: Will my right hon. Friend take into consideration the loss to dairy farmers of their milk trade through compulsory slaughter of their cows; if he has no power to give compensation for such loss will he consider taking power to compensate for such consequential loss of property?

Rear-Admiral Beamish: Has my right hon. Friend's attention been drawn to the possibility of this disease being transported through the mud which is brought into this country on the wheels and chassis of motor cars?

Mr. Morrison: Yes, Sir, that possibility has not been lost sight of, but as I have said the nature of this outbreak shows it to be a field infection rather than a road infection, and that it has not in fact been carried either by motor cars or by human feet.

. . . . .

The following questions and answers relative to other subjects have been recorded in the House of Commons recently:—

Milk (Pasteurization)

Sir Henry Morris-Jones asked the Minister of Agriculture whether, in the proposed legislation on milk production and distribution, he will consider giving permanent exemption from compulsory pasteurization in the case of the producer-retailer selling milk from one herd?

Mr. Morrison: As stated in paragraph 16 of the White Paper on Milk Policy issued in July last, it is proposed that the operation of any Order making compulsory the efficient pasteurization of milk sold by retail shall be deferred for two years after the Order is made, that milk retailed from dairies where the milk is derived from a single herd shall be exempt for three years from the date of operation of the Order, and that milk from tuberculin tested herds shall be exempt from its scope. I am always ready to consider suggestions, but as my hon. Friend will appreciate, the Government's proposals are expressly designed to afford an adequate opportunity for those concerned to make any adjustments that may be required to meet the new conditions.

Sir H. Morris-Jones: Will the right hon. Gentleman bear in mind that it is very difficult for small farmers, especially in Wales, to procure the necessary apparatus for pasteurization, and is it not the fact that a very large volume of British opinion will never be completely in favour of pasteurization?

Mr. Morrison: If the hon. Member will read the White Paper he will see that the initiative for any Order to make the pasteurization of milk compulsory must emanate from the local authority, and if the hon. Member's contention is right that a large part of the people are opposed to pasteurization, then I appreciate the fact that few of these applications have been made. The Government's policy is so designed that if a local authority does demand a power of compulsory pasteurisation those concerned will have adequate time in which to make the necessary arrangements and adjustments.

Mr. T. Williams: Will the right hon. Gentleman make no promise which will prevent him insisting on more efficient and cheaper distribution?

Mr. Morrison: The question of distribution is dealt with in the White Paper, and I shall be careful, as far as I can, to make no promise which will prevent me from discharging my duty to the House.

Mr. De la Bere: Will the right. hon. Gentleman bear in mind that pasteurization is not a panacea for all ills?

. . . . .

Government Milk Policy

Mr. Wilson asked the Prime Minister whether he is aware that the day-to-day administration of milk policy is in the hands of seven Government Departments, namely, Agriculture, Agriculture for Scotland, Health, Health for Scotland, Education, Education for Scotland, and Board of Trade; and whether, in the Bill to be introduced, it is proposed to make adequate and effective provision for some simplification of the present procedure?

The Prime Minister: Questions relating to milk naturally concern various Departments of State. I do not accept the implication of the hon. Member's question, but I may say that their respective spheres of administration will necessarily come under review in connection with the legislation to be introduced this Session to give effect to the Government's long-term milk policy.

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Livestock Industry Act

Mr. Guest asked the Minister of Agriculture whether any central slaughterhouse scheme has yet been approved under the Livestock Industry Act; and what local authorities or bodies have expressed their readiness to operate such schemes?

Mr. W. S. Morrison: The answer to the first part of the question is in the negative. The Livestock Commission do not anticipate being in a position to submit any slaughterhouse schemes for approval until they have had an opportunity fully to consider all the proposals put before them. As regards the second part, the local authorities for Cardiff, Edinburgh, Leeds, Leicester, Rugby and Sheffield, the Birmingham Wholesale Meat Salemen's Association and the Co-operative Wholesale Society, have expressed to the Commission their readiness to operate schemes. Preliminary inquiries that may lead to definite proposals have also been made on behalf of seven other local authorities or other bodies.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Nov. 22nd.—D.V.S.M. Examination begins in Edinburgh.

Nov. 24th.—Meeting of the Section of Comparative Medicine, Royal Society of Medicine, at 1, Wimpole Street, W., 5 p.m.

Nov. 26th.—Meeting of the Royal Counties Division, N.V.M.A., at the Royal Veterinary College, N.W.1.

Nov. 29th.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 4 p.m.

Nov. 30th.—All changes of address to be sent to the Registrar, R.C.V.S., for inclusion in the 1938 Register.

Dec. 2nd and 3rd.—R.C.V.S. Written Examinations.

Dec. 3rd.—Meeting of the Southern Counties Division, N.V.M.A., at Southampton, 2.30 p.m.

Dec. 7th.—R.C.V.S. Oral and Practical Examinations begin in Dublin.

Aug. 21st-25th, 1938.—Thirteenth International Veterinary Congress, Zurich.

Aug. 26th-27th, 1938.—Thirteenth International Veterinary Congress, Interlaken.

Sept. 5th-9th, 1938.—Annual Congress, N.V.M.A., at Glasgow.

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R.C.V.S. OBITUARY

Deathe, Charles J., Enniscorthy, Co. Wexford. Graduated Edinburgh, December 17th, 1889. Died November 9th, 1937.

Garside, Jonn James, "Lyme Villa," Lyme Street, Stockport, Cheshire. Graduated London, July 10th, 1899. Died November 12th, 1937; aged 63 years.

Patrick, William Cargill, Hawarden, Mullingar, Co. Westmeath. Graduated New Edinburgh, December 24th, 1891. Fellowship December 11th, 1899. Died November 6th, 1937.

Mr. William Cargill Patrick, F.R.C.V.S., who died in a Dublin nursing home, was a native of Perthshire, and studied at Edinburgh University. He first practised at Athlone, and later at Ballinasloe, and finally at Mullingar, where he had resided for the past 30 years. He was well known in hunting circles. Mr. Patrick was at one time on the Board of Examiners of the Royal College of Veterinary Surgeons.

Stear, George, Victoria, British Columbia, Canada. Graduated London, July 5th, 1884. Died October 28th, 1937.

Winter, Edward Charles, 152, Heene Road, Worthing, Sussex. Captain late R.A.V.C., D.V.M. (Cal.). Graduated Edinburgh, April 16th, 1887. Fellowship January 26th, 1893. Died October, 1937; aged 74 years.

The many friends of Mr. E. C. Winter, F.R.C.V.S., D.V.M., who practised in Limerick, Ireland, for more than 40 years, will be grieved to

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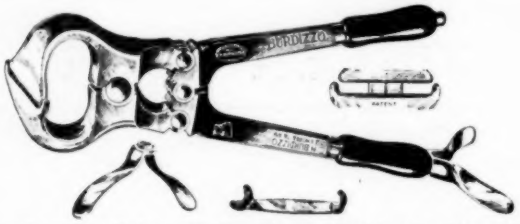

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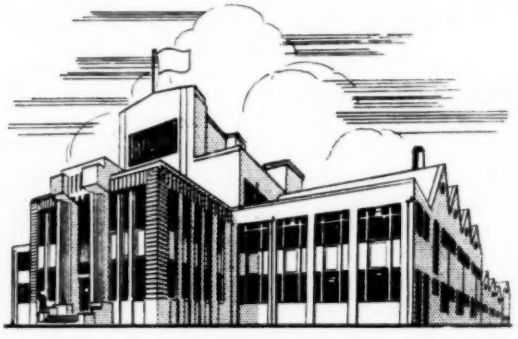

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hear of his death at the age of 74, in the home of his daughter, Mrs. Arthur S. Campbell, of Berkeley, California, on October 25th.

Born at Molug House, Cahirconlish, County Limerick, in 1863, Mr. Winter graduated from the Royal College of Veterinary Surgeons, in Edinburgh, in the year 1887. He practised continuously in Limerick until 1914 when he went to the United States as a Captain in the British Remount Commission, to purchase horses for use in France. He returned in 1918 and gave up practice in 1920 to take his family to California. He returned to England and engaged in private practice in Guildford, and later in Worthing until his retirement last July. Mr. Winter was known to the profession chiefly as a skilful surgeon of ingenuity and as a capable diagnostician.

Mr. Winter is survived by his wife, Bessie R. Winter, of Berkeley, his son Dr. William Gordon Winter, of Olive View, California, and by his daughter, Mrs. Arthur S. Campbell, of Berkeley. Mrs. Campbell is the wife of Professor Arthur S. Campbell, of St. Mary's College, California.

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FOOT-AND-MOUTH DISEASE

Two fresh outbreaks of foot-and-mouth disease were confirmed in North Huntingdon on Monday night. Over the week-end three other cases occurred in Northampton, Lincoln and Kent, each in an area already restricted.

The existence of the disease was confirmed on Tuesday among cattle at Nazeing, Essex, the area under restrictions lying in Essex, Hertfordshire and Middlesex. When the outbreak at Nazeing was suspected the Waltham Abbey market was closed and cattle proceeding to it were intercepted by the police on the instructions of the Ministry of Agriculture. The Ministry also confirmed a case on Romney Marsh, at Ness Farm, Dengemarsh.

An outbreak at Brick Kiln Farm, Leiston, Suffolk, on Tuesday, led the Ministry of Agriculture to take extraordinary precautions. The farm is only a mile from Theberton Grange, where an outbreak of the disease occurred last week. The water carts belonging to Leiston Council were engaged to spray the main roads with disinfectant for some miles around, and the hedges bordering the farm were also sprayed.

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At its meeting on Tuesday the Conservative Parliamentary Agricultural Committee considered the present outbreak of foot-and-mouth disease in the eastern and south-eastern counties. It was unanimously agreed that the slaughter policy, which has been employed by the Government for many years past, affords the only practicable means of dealing with the disease in a way that will satisfactorily safeguard the interests of home agriculture.

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Ravages in Belgium

"An extremely virulent form of foot-and-mouth disease is raging among cattle, goats and pigs, in all parts of Belgium. A few horses are also affected," states the Brussels Correspondent of *The Times*.

"The germ of the disease, it is thought, was imported *via* France last May with pigs and sheep from North Africa. The first outbreak was discovered at Deynze, not far from Ghent, and a score of others followed in Western Flanders. There are now 3,573 infected centres, distributed among 855 communes. According to official figures there are 1,068 in Western Flanders, 785 in Eastern Flanders, 652 in Hainault, 542 in Brabant, 280 in Liége, 161 in Antwerp, 85 in Namur, 57 in Limburg, and three in Luxemburg.

"Cattle markets, except for the butchery trade, are forbidden throughout the country, and, besides the general measures taken in such cases, the local authorities have forbidden the movement of healthy cattle in the infected areas. The State veterinary inspection services hope that the country will be clear of the malady by the beginning of next year."

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Owing to foot-and-mouth disease, closure has had to be made of the Zoological Gardens of Basle, which will remain shut for at least two months. Fifteen ruminants, mainly buffaloes and yaks, had to be shot.

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PERSONAL

Dr. O. Charnock Bradley

In our last issue we announced, with much regret, the serious illness, sudden in onset, of Dr. O. Charnock Bradley, Principal of the Royal (Dick) Veterinary College, Edinburgh. We understand that his condition still gives rise to some anxiety. Needless to say, he is receiving the very best professional aid and attention. It is difficult at this stage to give our anxious readers more definite information.

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Birth.—Begg.—To Mary Grace (née Bevis), wife of G. W. Begg, at Park Hall, Crawley, Winchester, Hampshire, on November 13th, 1937, a son.

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We are pleased to learn that, at the recent municipal elections in the Metropolitan area, Sir Frederick Hobday, C.M.G., F.R.C.V.S., late Principal and Dean of the Royal Veterinary College, secured a seat on the Council of the Royal Borough of Kensington.

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ARMY VETERINARY SERVICE

London Gazette—War Office—Regular Army

Nov. 16th.—Maj. C. H. S. Townsend, O.B.E., M.C., F.R.C.V.S., retires on ret. pay (Nov. 15th).

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LEGAL NOTES

Carcase Condemned for Medicine Taint

Arbitrator's Award Against Corporation

"A lengthy arbitration, in which King's Lynn butchers, trading as the executors of Mr. T. E. Southerland, brought a claim against the King's Lynn Corporation in respect of the seizure of the carcase of a bullock, served to emphasise the seriousness of the position of traders in those places where no local Act governs the condemning of meat," states the *Meat Trades Journal* in its introduction to the following report of an important arbitration case, appearing in the issue of that journal of October 28th.

The proceedings were the first of their kind, being a dispute as to the exercise of their powers under the Public Health Act by the Corporation. As a result of the request of Messrs. Southerland for their claim for £20 15s., the value of the beast, to be referred to arbitration, the Minister of Health nominated Dr. Charles F. White, of the Guildhall, London, as arbitrator in the matter.

Important points affecting traders and the public officials administering the law relating to

the seizure of carcases were discussed during the hearing, at which the National Federation of Meat Traders was represented.

Mr. D. A. Scott Cairns presented the case for the claimants, on instructions from Messrs. Jackson and Jackson. Mr. Vernon Gattie, instructed by the Town Clerk of Lynn, was for the Corporation.

Opening the case for the claimants, Mr. Scott Cairns said the real issue between the parties was whether the carcase was tainted with medicine, to which might be added this point: if it was tainted with medicine was it so tainted as to render it unsound or unfit for human consumption. So far as the claimants were concerned he would tackle the matter in three ways: first, to trace the history of the animal and show at no time during several months before the time of slaughter had the animal had any medicine at all; secondly, to show that qualified persons, experienced with meat, who saw the carcase and smelt it after slaughter found no evidence of medicine taint; and thirdly, expert witnesses would say that assuming that there were certain symptoms alleged by the sanitary inspector, those symptoms by themselves fell short of showing there was medicine taint present. Mr. Scott Cairns said with regard to the latter point witnesses he was to call did not have the opportunity of actually seeing the carcase and this raised a question it might be necessary for the arbitrator to consider. If the arbitrator came to the conclusion that there might have been medicine taint, but it was not positively established that there was, he submitted claimants should have the award, because to prove positively there was no medicine taint would take a very careful examination of the organs and claimants had not the opportunity they wanted for that. They asked for it, they pressed for it, but it was refused.

The Arbitrator: While the carcase was still in existence?

Mr. Scott Cairns: While the carcase was still in existence. The position under the Act is: the inspector is to seize the carcase and take it before a magistrate, and admittedly, no provision is made there for an opportunity of analysis by claimants. It is given in a good many local Acts passed between 1925 and 1937; I think they almost uniformly give an opportunity when proceedings are taken under this Section for examination by the owners and for the calling of witnesses. The respondents thought it proper to refuse examination. I shall call some gentlemen from other areas who will tell you they would never dream of refusing examination where it was asked for. If it had been allowed here it is probable this arbitration would never have been entered into, because it would have settled the dispute. The bullock belonged originally to a Mr. E. Wilson, and when he died, in 1936, it passed with other stock into the hands of his executor, Mr. R. H. Stanton. It was summered on Ingoldisthorpe Marshes with a herd of about 20. In the winter the whole herd was brought into a yard and fed on beet pulp, swedes, cattle mixture and a proprietary article called kositos, of which he could give the analysis—all perfectly normal feeding stuffs. On March 9th the bullock in question was sold by auction at King's Lynn Market to the claimants for £20 15s. 0d., which was a fair price for a bullock of its type and weight. The fact that it was graded for subsidy, and the farmer received his money, indicated that it was a good-looking healthy bullock before slaughter. On March 10th it was slaughtered at a local slaughterhouse, used by various butchers, and the slaughterman found some of the fat had grown into the flanks, and in order to release it he had to pull some of the peritoneum away and he left some of the peritoneum for the inspector to see.

The slaughterman, Frederick Herbert J. Williamson, employed by Messrs. Southerland, said he was obliged to pull some of the skin away from the flank and, thinking the inspector would want to know why it was removed, he saved a piece of it for him to see. The Assistant Sanitary Inspector for the borough saw the carcase, examined the liver, which he threw on the floor, and said the carcase would have to hang until the following morning, and if it had then set it would be all right. If not, he would have the carcase as well as the offals.

Mr. Scott Cairns: When you slaughtered the animal did you notice any unusual smell?—None whatever.

And when the inspector was there was anything said about any unusual smell?—No.

Mr. Richard H. Wilson, a West Norfolk farmer of 50 years' standing, living at Park Farm, Snettinsham, told the arbitrator the bullock passed into his hands with a herd of 20 upon the death of a relative, of whose estate he was the executor, in 1935. It was fed normally and none of the herd ever had any sickness.

Cross-examined by Mr. Gattie, witness said the bullock would not be given any medicine without his knowledge, and there was no likelihood of it having touched disinfectant on the farm.

Mr. Gattie intimated that there would be evidence that there were adhesions in the carcase, and asked if any of the herd had ever had peritonitis.

Witness replied that none of the cattle had suffered from this to his knowledge.

The Arbitrator: There has been no foot-and-mouth disease in the district?—No.

Or nothing calling for any special measures from the Ministry?—No.

Evidence that the bullock had only hay and water during the time it was in the charge of Messrs. Hawkins Auction Company, of King's Lynn Market, was given by Frederick William Brock, cattle foreman employed by the auctioneers, who said he met it at the rail-head and had it in his charge until it was sold.

For the claimants evidence was also called from Mr. David S. Jack, veterinary surgeon, King's Lynn, who is veterinary inspector at Lynn Cattle Market for the Corporation, and also local inspector for the Ministry of Agriculture. He said on March 11th, at the request of Mr. E. Anderson, the Secretary of the King's Lynn Butchers' Association, he went to the slaughterhouse and examined the carcase of the bullock. He gave a certificate saying, in his opinion, it was fit for human consumption. As far as he could see there was no sign of medicine taint.

Mr. Gattie: Did it occur to you it would have been more satisfactory if you had asked one of the sanitary inspectors to go with you and point out what it was thought justified their decision?—It did not.

Don't you think it would have been very much better if, after you had examined the animal and found nothing wrong, you had gone to the sanitary inspector and asked him to show you what it was caused him to come to his decision?—No.

Don't you know smell may die down when the flesh is cold and then revive again when it is warmed?—I don't think so. I have never experienced that.

Mr. Wilfred Arthur Milton, the manager of Messrs. Southerland's shop, said the Assistant Sanitary Inspector visited him and told him he had taken the carcase of beef, and when he asked him what was wrong with it, he said "It has been doped."

Mr. Scott Cairns: Did he say anything about the kidney?—He said there was a distinct smell of medicine.

Witness said he went straight to the slaughterhouse and saw nothing unusual about the carcase except for the fat which had grown into the flank. There was no smell whatever. He saw the senior inspector, and told him he could find no trace of smell, and he replied, "In any case, it would come out when it was cooked."

Mr. Milton said he was present at the slaughterhouse when a lady magistrate was there to sign the condemnation order. "I asked her why she was condemning it," he said. "She replied, 'I don't know, I am not a butcher.'"

Mr. Ernest William Anderson, the Secretary to the King's Lynn Butchers' Association, who is also managing clerk for Messrs. Hawkins Auction Company, by whom the bullock was sold in the market, said no cattle could be dosed while in charge of the auctioneers without it coming to his notice, as they would have to pay out the money for medicines. He visited the slaughterhouse when the Medical Officer of Health was present. The Medical Officer asked for a kidney to be cut out and, having smelt it thoroughly, said, "There is nothing there." He informed witness the Sanitary Officer had told him he had smelt something the previous day which he could not smell now, but as it was present when the carcase was warm it might come out with cooking and he thought, in all the circumstances, it was best the carcase should go.

Witness said he wrote to the Medical Officer suggesting the Butchers' Association should have portions of the liver and certain tissues for analysis, and the Medical Officer informed him verbally he was agreeable to that. He said there was one thing he would like to have which the Association could not have—the stomach.

Mr. Scott Cairns: It was a sort of judgment of Solomon. He was to have it.

Witness said he was asked by the Medical Officer to communicate those instructions to the Sanitary Inspector, and did so.

The suggestion that the Association should have portions of the animal did not materialise, witness said, explaining that later in the day the Town Clerk of Lynn rang him up and asked under what Statute the Association was making the request.

"At four o'clock in the afternoon I went to the slaughterhouse and found a magistrate there with the Sanitary Inspector," witness told the Arbitrator. "The Sanitary Inspector said the magistrate was there to give order for the destruction of the carcase. I asked the magistrate what was wrong with the carcase. She said, 'I cannot see anything wrong with the carcase.' I said, 'You have been asked to sign papers for the destruction and yet you see nothing wrong with it?' She said, 'I know very little about it. I am not a butcher.'"

Mr. Scott Cairns: Was reference made to any other part of the animal? I asked her why she was condemning it, and she said, "There is a smell of medicine in the kidneys." I said, "Well, you can smell to-day what the Medical Officer of Health could not smell yesterday." She said, "I know nothing about that, as I don't understand anything about butchery," but added, "I don't like the look of that liver on the floor," and I informed her it had been there two whole days and one could easily see it had been gnawed by mice and cats. I told the magistrate livers are very often condemned but not the carcases.

The evidence of the Association's Secretary was supported by Thomas William Blomfield, London Road, Lynn, the Chairman of the organisation, who was present at the two interviews in the slaughterhouse.

Mr. Scott Cairns: Did you hear the Medical Officer of Health say anything to suggest that as a result of his own examination he found anything wrong with the beast?—No. A kidney was cut fresh out of the carcase and he smelt it and said, "There is nothing there."

Mr. Blomfield said it was suggested by claimant's manager that if the Sanitary Officer was right and the smell would be detected in cooking they should cook a portion of the meat and see the result.

Mr. Gattie: Then why didn't you do that?

Witness: They would not let us take any of the meat away.

Mr. Gattie: I am not quite sure what your interest is. Is it merely as a fellow butcher?—No. I am Chairman of the Association, and as such I was called in by the Secretary.

Do you say there was any refusal to allow these kidneys and so on to be examined privately by you or by someone you might appoint?—I think Mr. Anderson put that up, and he was refused the organs, etc.

The Arbitrator: Were you actually refused it or did you assume it?—I assumed it from what had transpired.

The claimant called an expert witness in Mr. Thomas Penman, Meat Inspector to the Metropolitan Borough of Finsbury, who has a portion of the Smithfield Market under his jurisdiction. He said when a beast was warm after slaughter it was a very common occurrence to get a strong smell from the kidneys.

Mr. Scott Cairns: Would you regard that as a sign that the carcase was unsound?—No.

Would you regard it as a matter which necessitated some further examination of the carcase?—It would depend upon the nature of the smell.

Is it a common thing to find something unusual in the kidneys which is not to be found in the carcase at all?—It is not an uncommon thing.

Witness said before he would decide in such a case as this he would require the carcase to be examined when it was cold, and if not satisfied it was all right then he would have it quartered to enable an examination of the muscular tissues to be made. Finally he would consider cooking necessary to decide the question of medicine taint.

The case for the claimants was concluded by evidence from Lieut.-Colonel T. Dunlop Young, O.B.E., D.V.S.M., M.R.C.V.S., F.R.S.I., who is lecturer and examiner on Meat Inspection for the Royal Sanitary Institute and the Battersea Polytechnic, the English editor of Ostertag's Book on Meat Inspection, late veterinary officer and chief inspector, Smithfield Markets, and now veterinary adviser to various overseas Governments.

He said when one got a smell associated with the carcase the first essential thing was to find out if it arose from a pathological origin or simply contamination. He would not seize a carcase on the grounds of the kidneys smelling when they were warm. If there was a medicinal smell in the kidneys it would not necessarily

be found in the rest of the carcase. When medicines were used they would not become noticeable in the kidneys of a carcase much earlier than 24 hours, and the length of time the smell would persist would depend upon the quantity of medicine given, the period over which it was administered, and the nature of the medicine. He would not decide the question without quartering the carcase, examining the muscular tissues, and it would be necessary to have a cooking test made.

The Local Authority's Case

For the Corporation the first witness was the Additional Sanitary Inspector, Mr. Harry Frederick Robinson, who said when he visited the slaughterhouse to inspect pigs the claimants' slaughterman called him over to the carcase of the bullock because he had pulled away part of the skin. He told the slaughterman the liver was degenerated, and the carcase must hang until the morning, as he noticed a pronounced odour from it.

Mr. Robinson described the smell from the kidneys as nauseating.

Mr. Scott Cairns: I gather if the slaughterman had not drawn your attention to something unusual nothing of this kind would have ever happened?—It is quite possible if the carcase had been removed. Witness said the smell was not that caused by feeding on sugar-beet pulp.

Ernest William G. Sharman, a young assistant in the slaughterhouse, said after the carcase had hung all night the Additional Inspector asked him to cut a kidney out and to smell it. There was a very strong smell.

Mr. Gattie: Can you describe it at all?—No; I have never smelt anything like it before in my life.

Mr. Harry George Cobbold, Senior Sanitary Inspector in the borough, said the smell was of a chemical of some description, and he decided the animal was not fit for food. He had been a meat inspector for ten years, and the odour was quite new to him. It was nothing like the smell of beet pulp.

Cross-examined, the Inspector declared that he did not consider any further test necessary, and he would take the same action again in similar circumstances.

The Arbitrator: Do you think you would have condemned the carcase in the absence of the smell?—No.

Dr. J. W. McIntosh, the Medical Officer of Health for King's Lynn, said the impression he got was that the animal had had some acute illness and medicine had been given to it. The liver was in a state which could not have existed without disease, and he did not consider the animal fit for consumption.

Asked if he considered, leaving out the liver and the peritoneum, there was sufficient evidence of medicine taint to show the animal was unfit, the Medical Officer replied: "I think the evidence of two experienced sanitary inspectors is strong."

Mr. Harold T. Parry, Sanitary Inspector of Kingston-on-Thames, expressed the view that odorous meat in all conditions was unfit for human consumption. In any question of doubt in his inspections he should consider public health first. "We have the evidence from the Inspectors, who say this was something they had never detected before, and from that point of view I think they did the right thing."

Mr. Scott Cairns: I suppose the more unusual the circumstances, the more the necessity for a full examination?—Yes, but in this case we are told it was nauseating.

Summing up, Mr. Scott Cairns said it was clear when the animal went to the market it was in good condition. The internal signs now showed it had been ill at some time, but when they did not know. The evidence showed the Medical Officer for the borough was in favour of the representatives of the butchers having samples of the animal, but it was obvious someone put a stop to that. If witnesses had been given the opportunity to have samples of the carcase and been able to make more minute examination they might have been able to give more valuable evidence.

Mr. Gattie submitted there would have been nothing to prevent Messrs. Southerland or their representatives putting aside part of the kidney or the meat to be retained for analysis at the time the magistrate judged the carcase unfit. If any complaint was made it was not justified.

The Arbitrator made known his decision on November 9th. Dr. White found that the claimants had sustained damage by reason of the exercise by the respondent Corporation of certain powers under the Public Health Act, 1875. The sum awarded the butchers was for the amount claimed and the Corporation were ordered to pay costs.

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THE DISSEMINATION OF TUBERCULOSIS IN THE BOVINE BODY

The Special Course on Cattle Diseases, arranged by the North of England Division, N.V.M.A., made an auspicious start on November 10th, when about 30 veterinarians met at King's College, Newcastle-on-Tyne, and heard Dr. Innes, of Cambridge, deliver the first lecture of the series entitled "The Dissemination of Tuberculosis in the Bovine Body." Dr. Innes delighted the company by a brilliant exposition of the pathology and pathogenesis of the disease, the main points of which were emphasised by diagrams and schematic representations. Of particular interest was the demonstration of specimens from a four-mouths old calf belonging to Mr. J. R. Rider. Mr. Rider stated that the calf was exposed to infection for three days following birth, but after this was removed to clean premises and fed on tuberculin tested milk. The calf reacted to tuberculin when six weeks old. Dr. Innes showed that the infection was pulmonary, and demonstrated the primary complex-infection of the lung with involvement of regional lymph node. The portal lymph glands and mesenteric glands were free from infection, indicating the pulmonary route, but owing to the age of the calf it was not possible to say whether infection was congenital or post-natal. The second lecture will be given in King's College at 5.30 p.m., on November 24th, by Mr. Arthur Gofton, F.R.C.V.S., of Edinburgh, entitled "Bovine Tuberculosis: Sources of Infection with Special Reference to Control and Eradication: Diagnosis of Open Tuberculosis."

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At Portree Sheriff Court six men were fined £3 each for using dynamite for the killing of salmon by placing it in a river at Uig. The Sheriff characterised the offence as "a dastardly act."